

Name: \_\_\_\_\_

**p1105: Factoring when  $a = 1$  (v12)**

**Example: Factor  $x^2 + 5x - 24$**

Find two numbers whose product is  $-24$  and whose sum is  $5$ . Focus on finding factor pairs of  $-24$ . Eventually you consider  $8$  and  $-3$  because  $(8)(-3) = -24$ . You verify this pair is correct because  $(8) + (-3) = 5$ . Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor  $x^2 + 2x - 35$

2. Factor  $x^2 - 4x - 12$

3. Factor  $x^2 - 13x + 36$

4. Factor  $x^2 + 7x + 10$

5. Factor  $x^2 - 16$

6. Factor  $x^2 - 14x + 49$

7. Factor  $x^2 - x - 72$

8. Factor  $x^2 + 10x + 16$

9. Factor  $x^2 + 2x - 15$

10. Factor  $x^2 - x - 30$

11. Factor  $x^2 + 13x + 42$

12. Factor  $x^2 - 16x + 63$

13. Factor  $x^2 - 2x - 35$

14. Factor  $x^2 + 8x + 15$

15. Factor  $x^2 - 17x + 72$